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Genetic alterations revealed in Allium cepa-test system under the action of some xenobiotics

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Abstract

Since the beginning of the industrialization, heavy metal pollution of soil and aquatic ecosystems has been significantly increased. The aim of the present study was to investigate genetic effects of lead and salicylic action in Allium cepa-test system. Onion bulbus were obtained commercially and were placed in small jars with the tested solutions of lead, salicylic acid and their combination. For the negative control it was used distilled water. When roots reached lengths of 1 cm, they was cut of and fixed with solution containing ethanol and acetic acid and then fixed roots were placed into staining solution and visualized. In this work it was presented that lead and salicylic acid have the opposite action toward a mitotic index in cells on onion roots. Salicylic action and lead discretely have a weak mutagenic potential that is less evident in the case of combined action of these xenobiotics. © IDOSI Publications, 2013.

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Keywords

Chromosomal aberrations, Genetic alterations, Lead, Micronucleus